Inductors for Standard Circuits

Multilayer Ferrite

Product compatible with RoHS directive
Halogen-free
Compatible with lead-free solders

Overview of the MLF Series

FEATURES

- The lineup includes a wide inductance range.
- Highly reliable monolithic structure with multilayer integration.

APPLICATION

Smart phones, tablet terminals, tuners, LCD-TVs, PDP-TVs, audio equipment, computers, signal processing for modules etc.

PART NUMBER CONSTRUCTION

MLF	1005	L	R10	K	T	□□□
Series name	L×W×H Dimensions (mm)	characteristics	Inductance (μH)	Inductance tolerance	Packaging style	Internal code

L×W×H Dimensions (mm)	
1005	1.0×0.5×0.5
1608	1.6×0.8×0.8
2012	2.0×1.25×0.85
	2.0×1.25×1.25

characteristics
A
C
D
E
G
K
L
V

Inductance (μH)	
10N	0.010 (10nH)
R10	0.1
1R0	1
100	10

Inductance tolerance	
K	±10%
M	±20%

Packaging style	
T	Taping

OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

Type		Temperature range: Operating temperature (°C)	Temperature range: Storage temperature* (°C)	Package quantity (pieces/reel)	Individual weight (mg)
MLF1005V.1005G		–55 to +125	–55 to +125	10,000	1.2
MLF1005L		–40 to +85	–40 to +85	10,000	1.2
MLF1608		–40 to +85	–40 to +85	4,000	4
MLF2012	t=0.85	–40 to +85	–40 to +85	4,000	10
	t=1.25			2,000	14

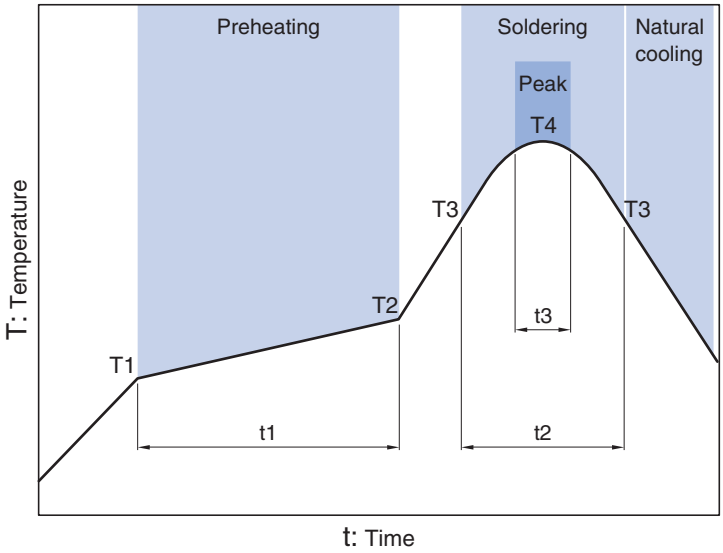
* The Storage temperature range is for after the circuit board is mounted.

- RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. http://www.tdk.co.jp/rohs/
- Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

• All specifications are subject to change without notice.

Overview of the MLF Series

RECOMMENDED REFLOW PROFILE



Preheating			Soldering		Peak	
Temp.		Time	Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3
150°C	180°C	60 to 120s	230°C	30 to 60s	250 to 260°C	10s max.

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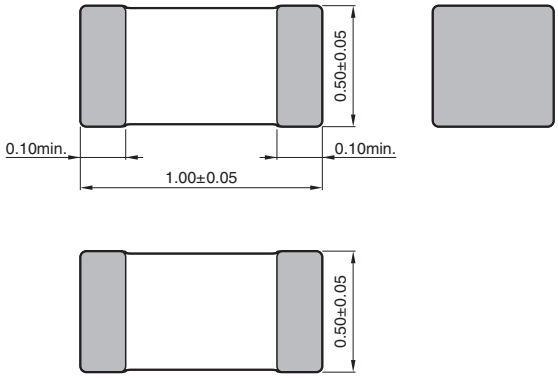
MLF series

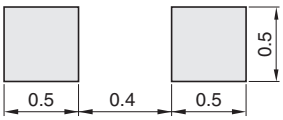
MLF1005 Type

SHAPE & DIMENSIONS



Dimensions in mm

RECOMMENDED LAND PATTERN



Dimensions in mm

• All specifications are subject to change without notice.

MLF series MLF1005 Type

■ELECTRICAL CHARACTERISTICS

□CHARACTERISTICS SPECIFICATION TABLE

L (μH)	Tolerance	L, Q measuring conditions Frequency (MHz)	Current (mA)	Q min.	Self-resonant frequency (MHz) min.	DC resistance (Ω) max.	Rated current (mA) max.	Part No.*
0.10	±10%	25	1.0	10	450	0.51	180	MLF1005VR10KT□□□
0.12	±10%	25	1.0	10	400	0.59	180	MLF1005VR12KT□□□
0.15	±10%	25	1.0	15	350	0.63	180	MLF1005VR15KT□□□
0.18	±10%	25	1.0	15	320	0.72	160	MLF1005VR18KT□□□
0.22	±10%	25	1.0	15	290	0.79	160	MLF1005VR22KT□□□
0.27	±10%	25	1.0	15	260	0.91	150	MLF1005VR27KT□□□
0.33	±10%	25	1.0	15	230	1.05	140	MLF1005VR33KT□□□
0.39	±10%	25	1.0	15	210	1.35	130	MLF1005VR39KT□□□
0.47	±10%	25	1.0	15	190	1.50	120	MLF1005VR47KT□□□
0.56	±10%	25	1.0	15	170	1.95	120	MLF1005VR56KT□□□
0.39	±10%	10	1.0	30	210	0.41	50	MLF1005GR39KT□□□
0.47	±10%	10	1.0	30	190	0.42	50	MLF1005GR47KT□□□
0.56	±10%	10	1.0	30	170	0.47	45	MLF1005GR56KT□□□
0.68	±10%	10	1.0	30	150	0.55	45	MLF1005GR68KT□□□
0.82	±10%	10	1.0	30	130	0.59	40	MLF1005GR82KT□□□
1.0	±10%	10	1.0	30	120	0.64	40	MLF1005G1R0KT□□□
1.2	±10%	10	1.0	30	110	0.79	35	MLF1005G1R2KT□□□
1.5	±10%	10	1.0	30	100	0.95	35	MLF1005G1R5KT□□□
1.8	±10%	10	1.0	30	90	1.05	30	MLF1005G1R8KT□□□
2.2	±10%	10	1.0	30	80	1.30	30	MLF1005G2R2KT□□□
0.10	±10%	25	1.0	10	450	0.51	150	MLF1005LR10KT□□□
0.12	±10%	25	1.0	10	400	0.59	140	MLF1005LR12KT□□□
0.15	±10%	25	1.0	10	350	0.63	130	MLF1005LR15KT□□□
0.18	±10%	25	1.0	10	320	0.76	120	MLF1005LR18KT□□□
0.22	±10%	25	1.0	10	290	0.79	110	MLF1005LR22KT□□□
0.27	±10%	25	1.0	10	260	0.91	100	MLF1005LR27KT□□□
0.33	±10%	25	1.0	10	230	1.05	90	MLF1005LR33KT□□□
0.39	±10%	10	1.0	25	210	0.41	50	MLF1005LR39KT□□□
0.47	±10%	10	1.0	25	190	0.42	50	MLF1005LR47KT□□□
0.56	±10%	10	1.0	25	170	0.47	45	MLF1005LR56KT□□□
0.68	±10%	10	1.0	25	150	0.55	40	MLF1005LR68KT□□□
0.82	±10%	10	1.0	25	130	0.59	35	MLF1005LR82KT□□□
1.0	±10%	10	1.0	25	120	0.64	35	MLF1005L1R0KT□□□
1.2	±10%	10	1.0	25	110	0.79	35	MLF1005L1R2KT□□□
1.5	±10%	10	1.0	25	100	0.95	30	MLF1005L1R5KT□□□
1.8	±10%	10	1.0	25	90	1.05	20	MLF1005L1R8KT□□□
2.2	±10%	10	1.0	25	80	1.15	15	MLF1005L2R2KT□□□

* The " □□□ " of the Part Number contains the internal code.

○ Measurement equipment

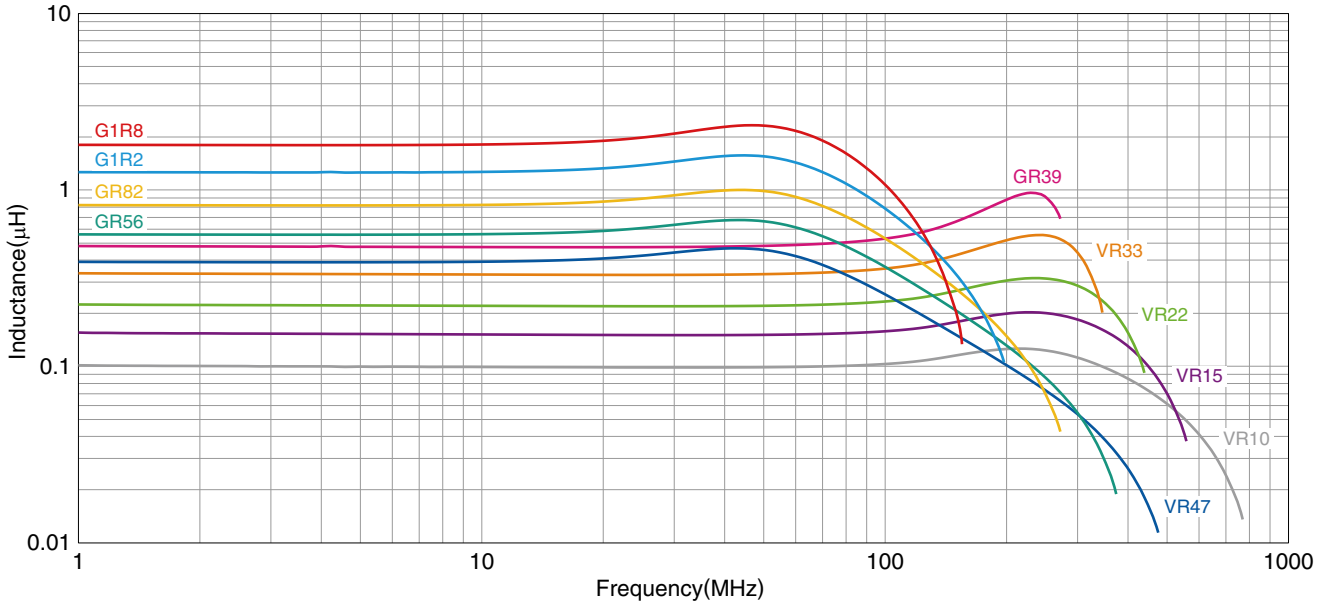
Measurement item	Product No.	Manufacturer
L, Q	4294A+16034G	Agilent Technologies
Self-resonant frequency	E4991A	Agilent Technologies
DC resistance	Type-7561	Yokogawa

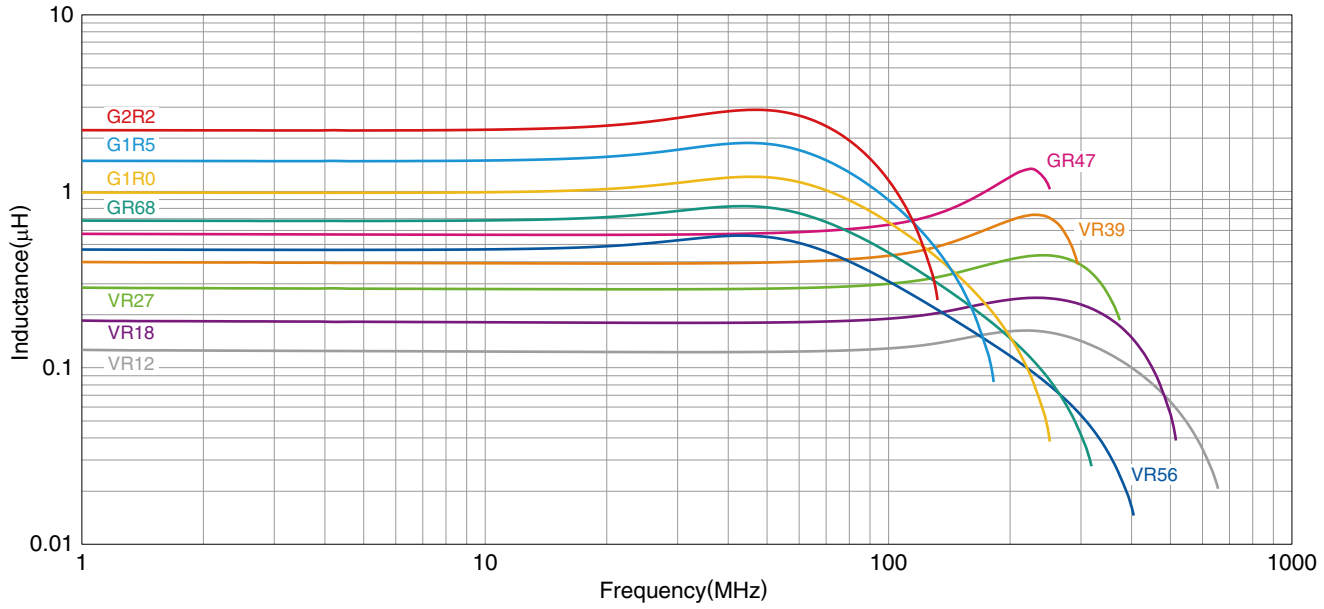
＊ Equivalent measurement equipment may be used.

MLF series MLF1005 Type

■ELECTRICAL CHARACTERISTICS

□L FREQUENCY CHARACTERISTICS GRAPH





○ Measurement equipment

Product No.	Manufacturer
E4991A+16192A	Agilent Technologies

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MLF series MLF1005 Type

■ELECTRICAL CHARACTERISTICS

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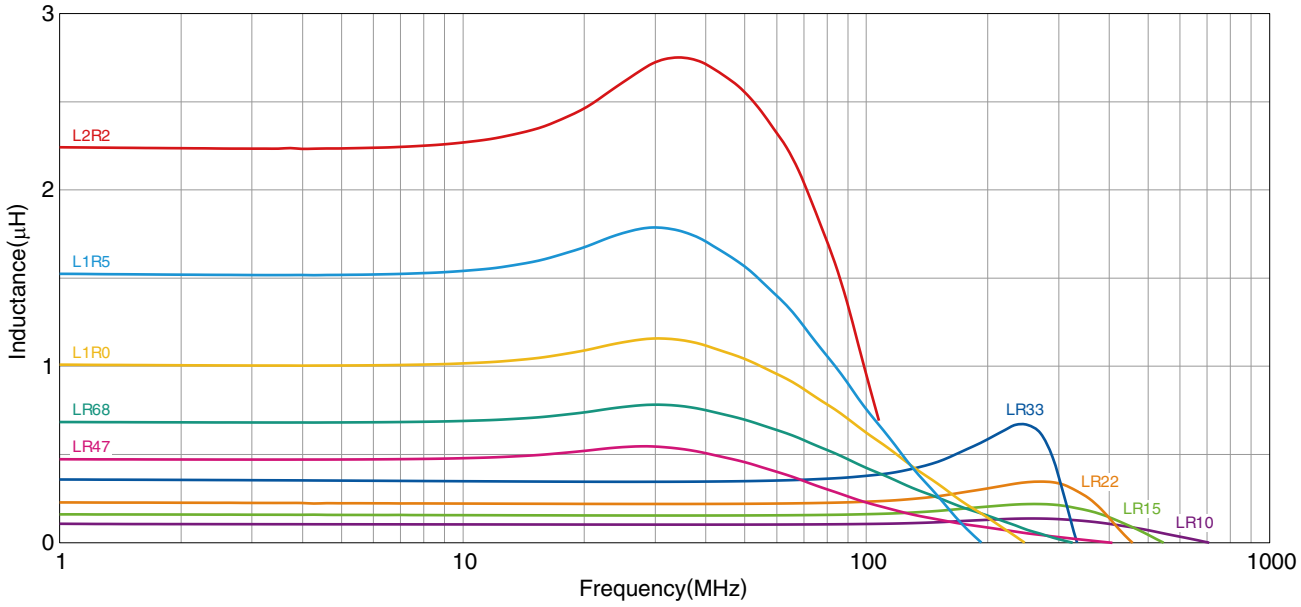

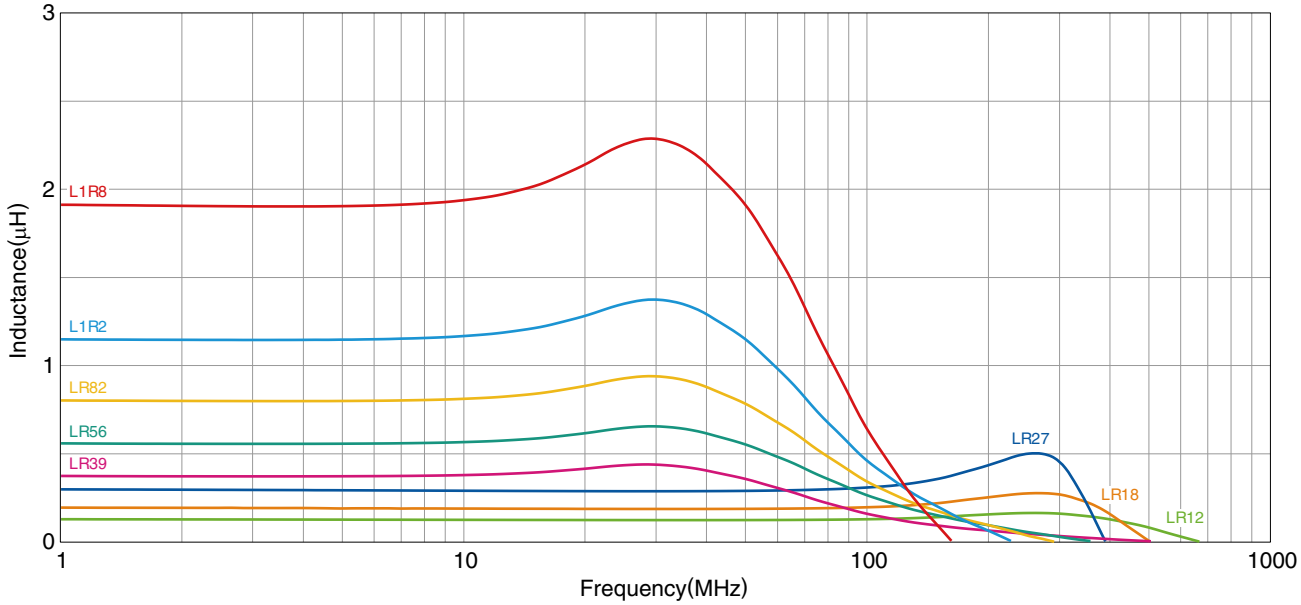

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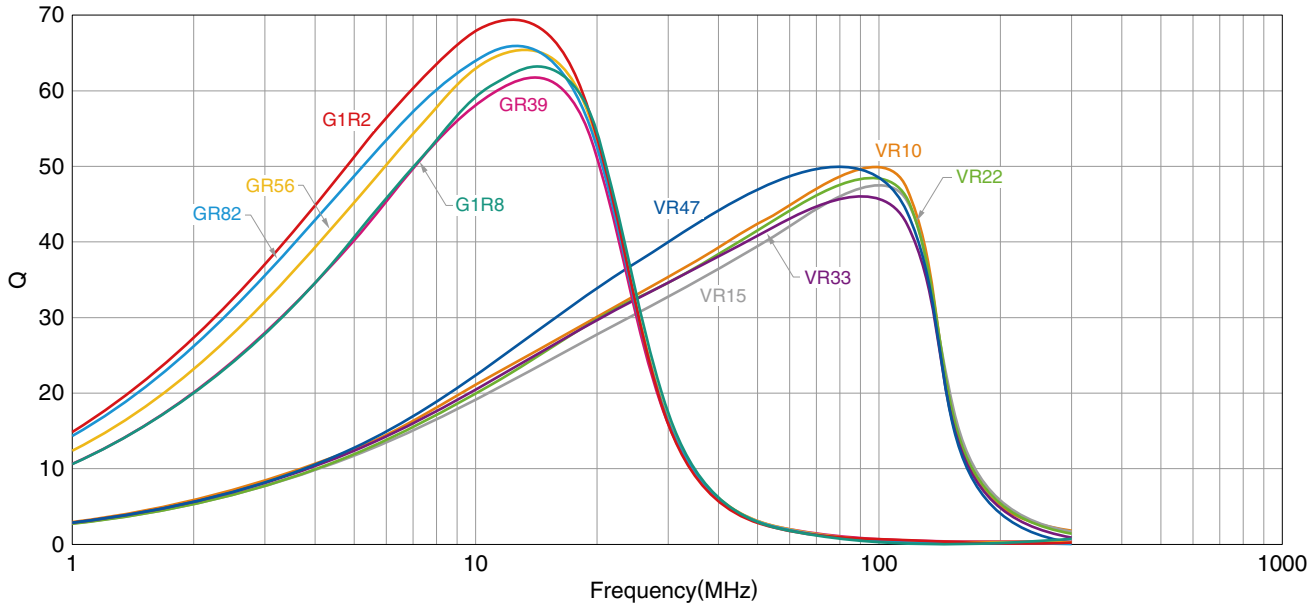

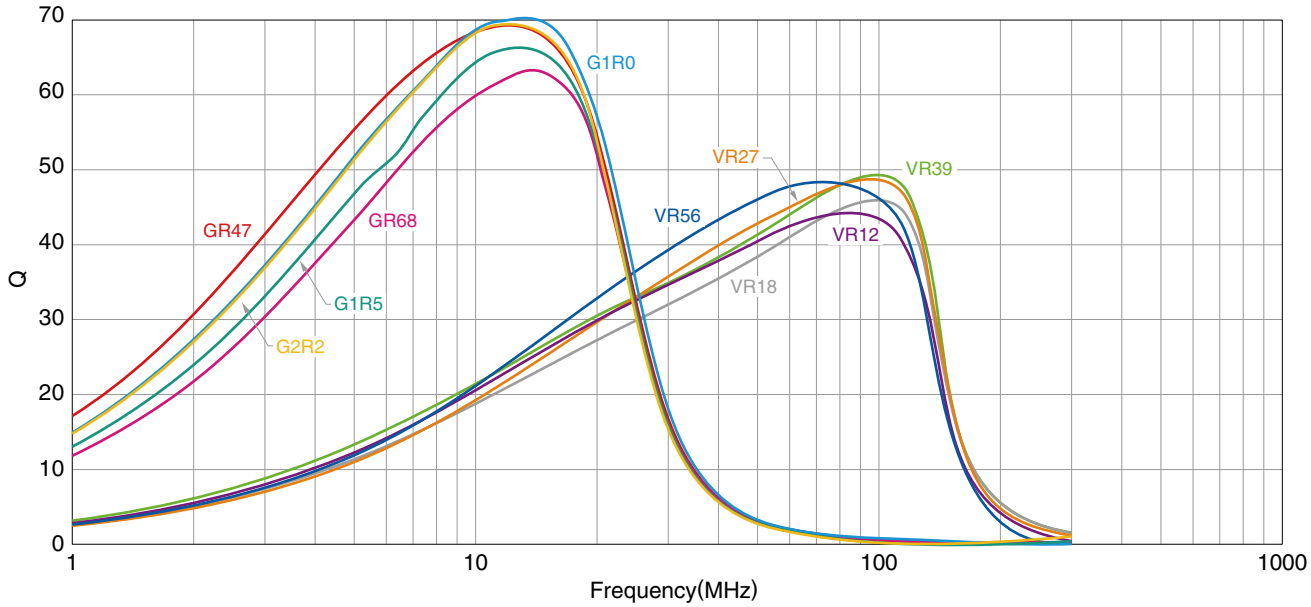

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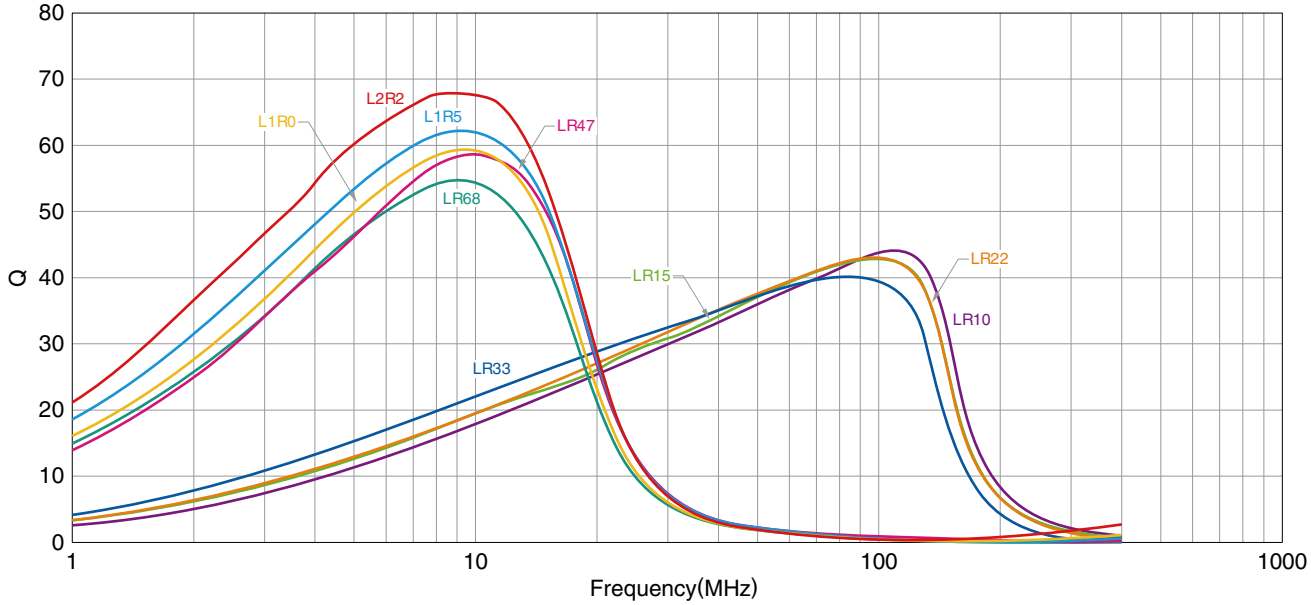

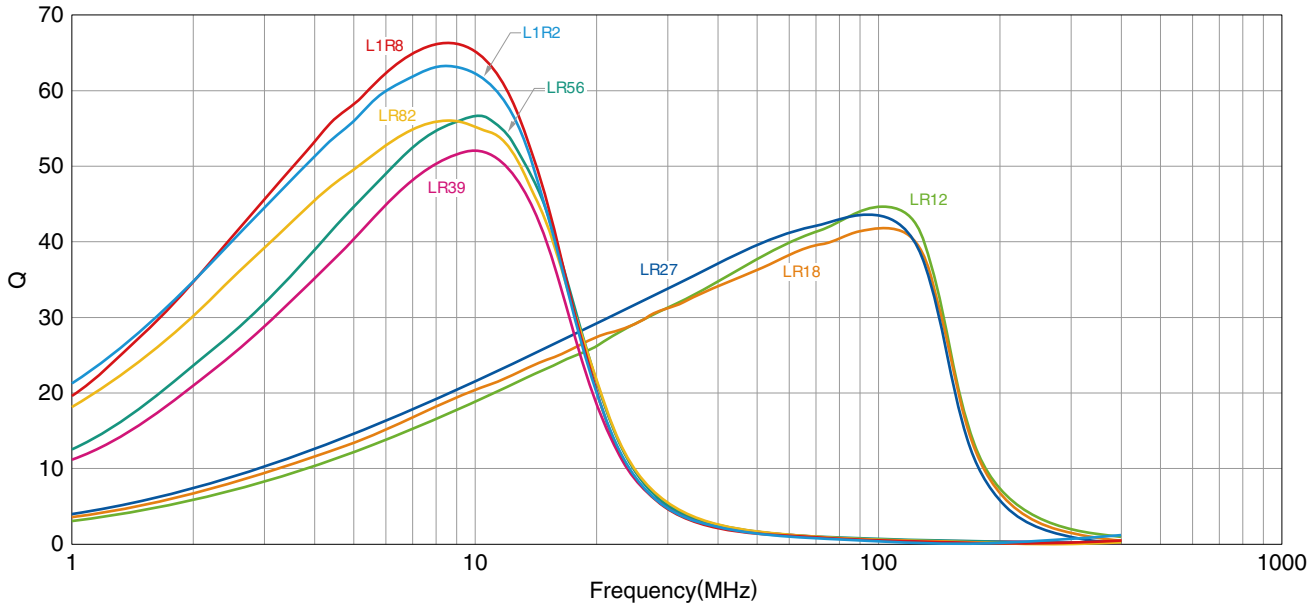

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